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李申申

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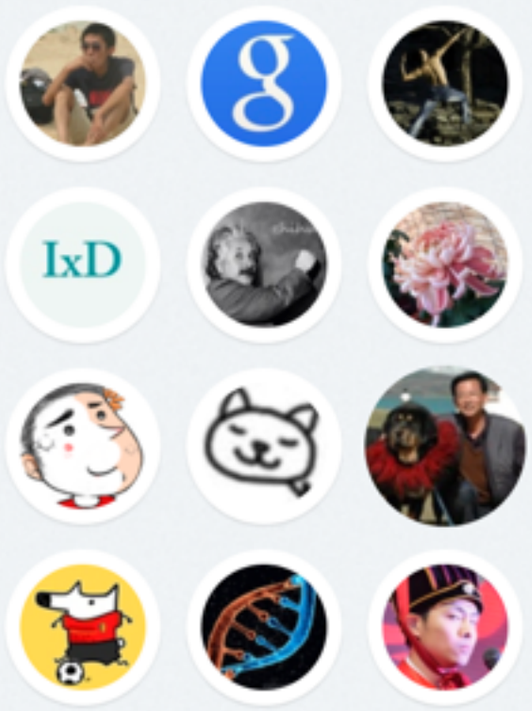

周晓农 知乎种田人

在知乎回答了 1342 个问题，362144 人关注他。

4454 为什么「老干妈」没有遇上强劲的对手?

3212 有哪些让你肃然起敬的人或瞬间?

3190 如何快速地涉猎一个领域的知识?

中国联通
15:03
73%
首页
提问
读书有疑 中很多人赞同该文章
2014 我的年度10本书|罗文益
101 2014年读的书大概有一两百本，大多都是非虚构类，涉及的内容也比较杂，...
何言 赞同该回答
作词人把自己最好的作品给了谁?
908 泻药。刚刚才挖了个坑，现在又挖个坑给我填。林夕篇说到作词人必说林夕...
吴昊、陈铮 ...等 3 人赞同该回答
有哪些目的是好的，却被恶意滥用的技术和设计?
82 1. TCP RST 包当连接已经关闭或者目的端口不存在时，用于关闭 TCP 连接2....
王超、蘗師 ...等 3 人赞同该回答
你所在或了解的领域有哪些技术上不是很复杂，但 idea 非常好，很有原创...
360 我来讲一个简单、吊炸天的：不耗能的空调。在美国，15%的电能用在空调...
大猫 关注了该问题

3:20
首页
黄继新 关注了该问题
如何评价Kendrick Lamar的未命名("Untitled")新单曲？
Lawrence Li 回答了该问题
如何让生活彻底远离二次元（acg）亚文化？
2 收聽《無次元》播客，便可自由出入任何次元：http://wcy.wtf
夏勇峰 关注了该问题
万磁王克钢铁侠么？
Lawrence Li 回答了该问题
中国的极简主义现状如何？中国的极简是否有种矫揉造作之嫌？
3 中國的山寨極簡主義：無次元 #3: 抱抱
周源 赞同该回答
魔术道具中的闪光纸，也能把别的东西烧的毫无痕迹吗？

中国联通
15:03
73%
今日热闻
「领导请你尊重这门专业」，可能笑错了点
深夜食堂·极昼极夜生活
排队吃饭，越等越好吃?
长跑时遇到有人心脏骤停的情况，应该如何急救?
饿了·全球各地「第一口就被惊艳到」的美食（多图）

3:46
首页
令人心塞的火车晚点和临时停车，为什么常会发生？
今日热闻
令人心塞的火车晚点和临时停车，为什么常会发生？
画展中的作品本色出演，有人故意损坏怎么办？

Airbnb 是如何设计办公室的

李奇 · 1 个月前

硅谷的很多公司都有着看起来非常豪华的办公室，Airbnb 也是如此。也许是因为自身的业务影响，他们对于「房子」的理解似乎要更加深刻。

要说 Airbnb 的办公室装修，就不得不提到一个叫做 Employee Experience （之前叫

Design stuff

设置

1864 人关注

创作方向为互联网产品设计相关，包括桌面、移动端设计。

Airbnb ×

添加话题

知乎周刊

VOL.
061
2014/11/27

专题

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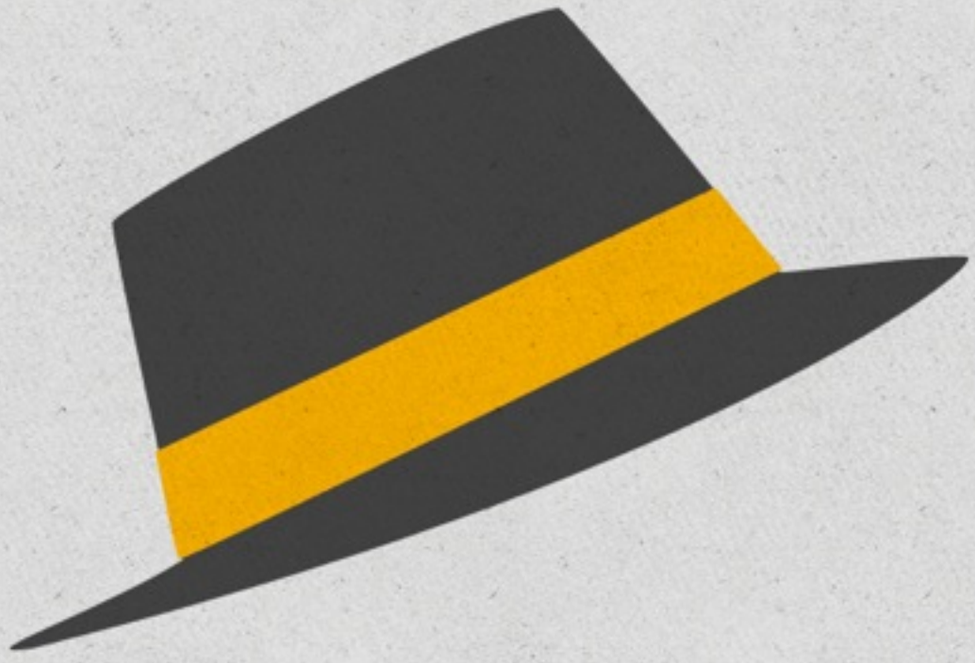

你好，先生。

RU 11M+

MAU 80M+

MPV 220M+

2010.10

You jump off a cliff and you assemble an aeroplane on the way down.

Reid Hoffman

Linode 512M

知乎 - 404

生活中总有个幸福的时刻，所有的问题都离你而去

为了让大家访问知乎更加顺畅，我们将在 0:00 至 4:00 进行网络优化，期间无法访问知乎，敬请谅解：）

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你永远不知道明早醒来会面对什么问题

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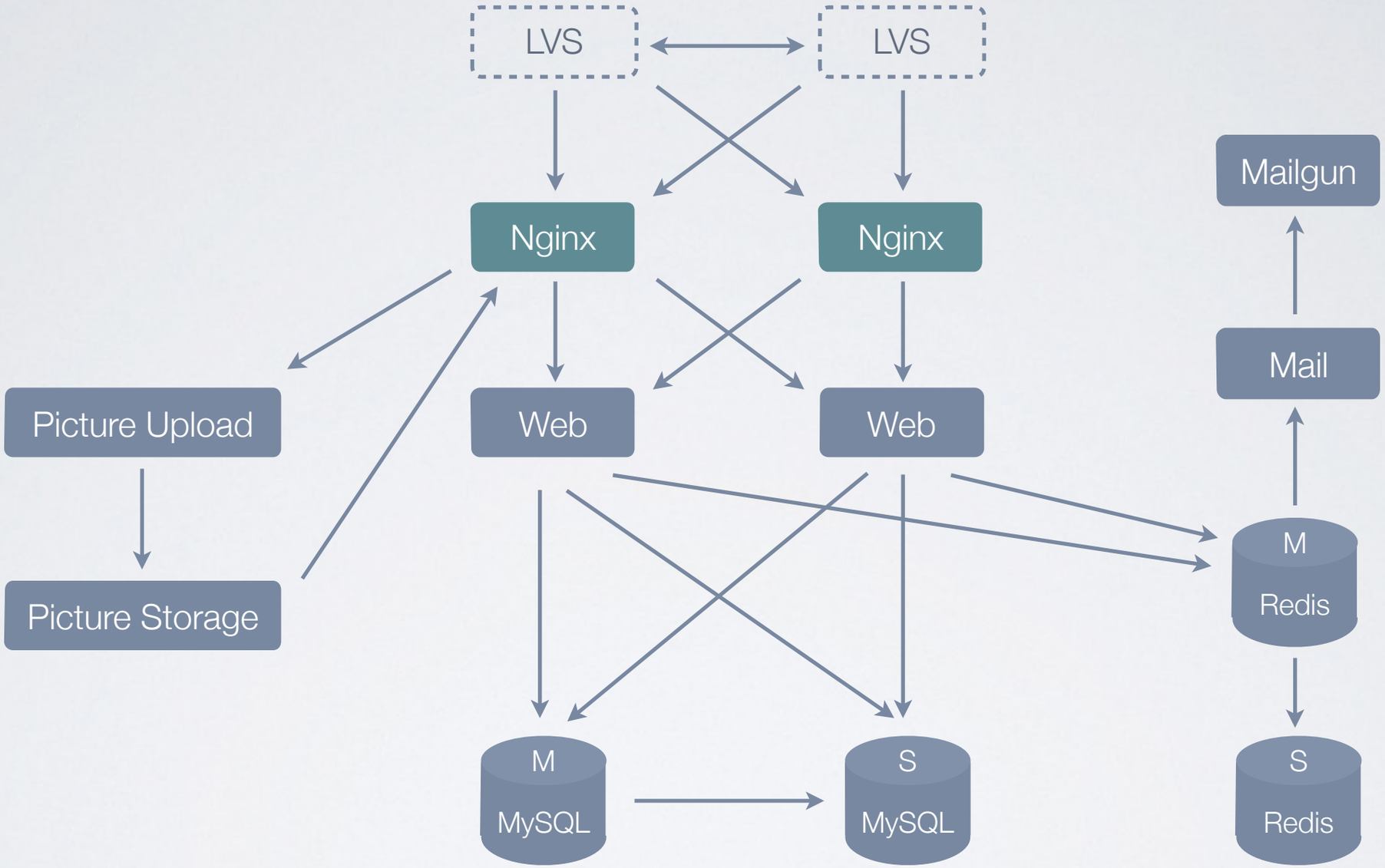

LVS
LVS
Nginx
Nginx
Picture Upload
Web
Web
Mailgun
Mail
M
Redis
Picture Storage
M
MySQL
S
MySQL
S
Redis

MySQL 经典问题

主从延迟

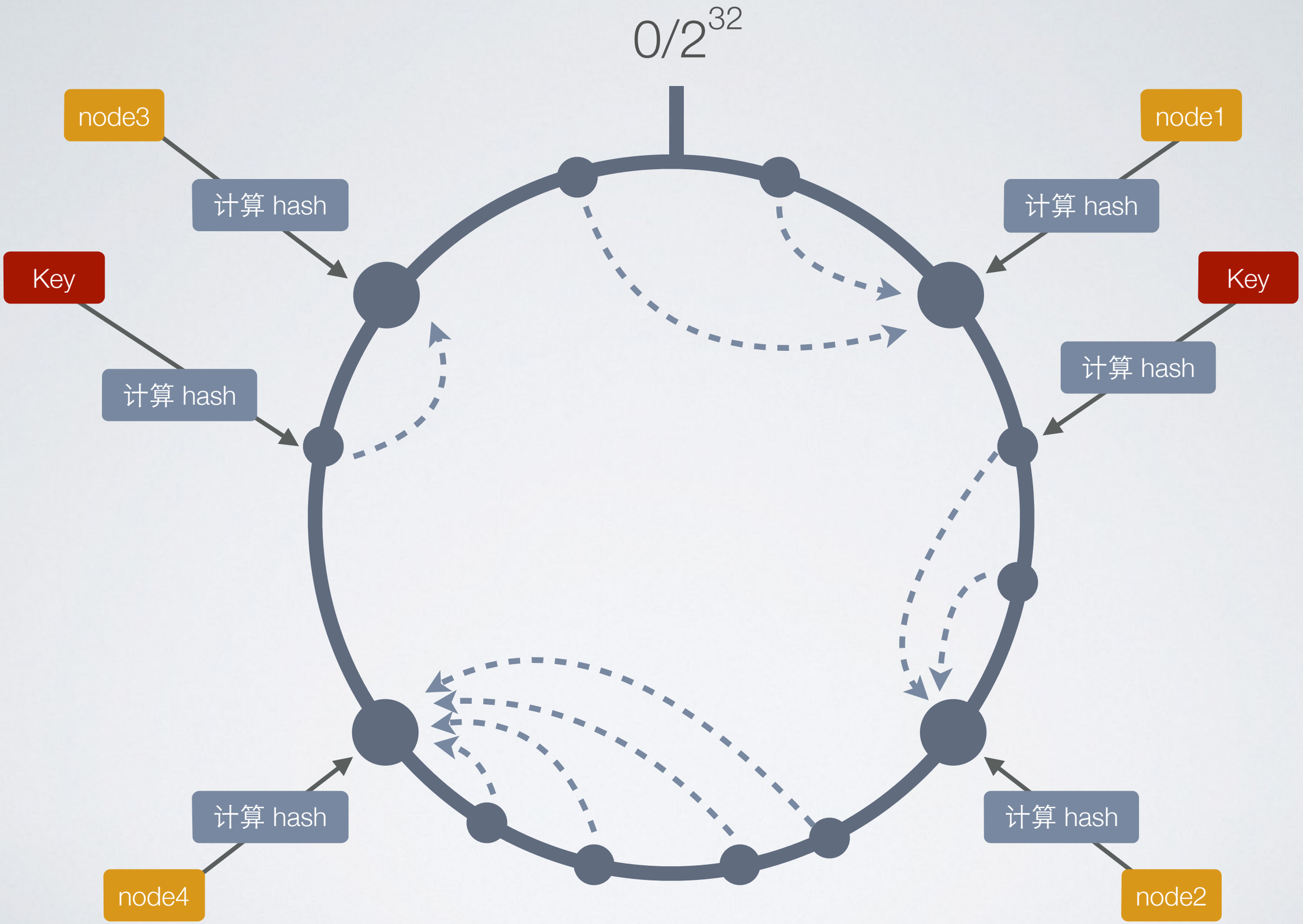
资源隔离

内网优化

硬盘升级

应用层灵活调用

Redis Shard


0/2^32
node3
计算 hash
node1
计算 hash
Key
Key
计算 hash
计算 hash
计算 hash
node4
node2

github.com/zhihu/redis-shard

工具是一个过程

用大小形状都合适的物体，以最有效的方式完成工作

```
/?__profile__=y

      186545 function calls (183269 primitive calls) in 1.466 seconds

Ordered by: cumulative time, call count, internal time
List reduced from 1176 to 100 due to restriction <100>

ncalls  tottime  percall  cumtime  percall filename:lineno(function)
     1    0.000    0.000    1.466    1.466 /data/apps/zhihu/apps/web/views/home/__init__.py:43(get)
     1    0.000    0.000    1.466    1.466 /data/apps/zhihu/apps/web/views/home/__init__.py:89(_home)
     1    0.000    0.000    1.455    1.455 /data/apps/zhihu/apps/web/views/__init__.py:236(auto_render)
     1    0.000    0.000    1.455    1.455 /data/apps/zhihu/apps/web/views/__init__.py:104(render)
 470/1    0.001    0.000    1.453    1.453 /data/apps/zhihu/eggs/ZhihuNode-0.0.30-py2.7.egg/zhihunode/__init__.py:230(__str__)
  27/1    0.004    0.000    1.453    1.453 /data/apps/zhihu/eggs/ZhihuNode-0.0.30-py2.7.egg/zhihunode/__init__.py:249(recursive
_render)
  470/444    0.009    0.000    1.324    0.003 /data/apps/zhihu/eggs/ZhihuNode-0.0.30-py2.7.egg/zhihunode/__init__.py:332(render_li
st)
  504/478    0.003    0.000    1.170    0.002 /data/apps/zhihu/eggs/ZhihuNode-0.0.30-py2.7.egg/zhihunode/__init__.py:316(get_obj)
       62    0.001    0.000    0.780    0.013 /data/apps/zhihu/eggs/stpclient2-0.0.15-py2.7.egg/stpclient2/client.py:258(call)
       62    0.001    0.000    0.768    0.012 /data/apps/zhihu/eggs/stpclient2-0.0.15-py2.7.egg/stpclient2/client.py:246(recv_resp
onse)
      186    0.002    0.000    0.766    0.004 /data/apps/zhihu/eggs/stpclient2-0.0.15-py2.7.egg/stpclient2/client.py:129(_recv_len
gth)
       67    0.001    0.000    0.765    0.011 /data/apps/zhihu/eggs/stpclient2-0.0.15-py2.7.egg/stpclient2/client.py:109(_recv_str
eam)
      129    0.762    0.006    0.763    0.006 {select.select}
       68    0.002    0.000    0.652    0.010 /data/apps/zhihu/eggs/wish-0.8.2dev1-py2.7.egg/wish/client.py:39(__wrap)
       23    0.000    0.000    0.621    0.027 /data/apps/zhihu/eggs/protobuf-2.5.2-py2.7-linux-x86_64.egg/google/protobuf/service_
reflection.py:266()
       23    0.000    0.000    0.621    0.027 /data/apps/zhihu/eggs/protobuf-2.5.2-py2.7-linux-x86_64.egg/google/protobuf/service_
reflection.py:269(_StubMethod)
       23    0.001    0.000    0.621    0.027 /data/apps/zhihu/eggs/wish-0.8.2dev1-py2.7.egg/wish/channel.py:116(CallMethod)
```

Profiling

stpclient2.exceptions.STPNetworkError

STPNetworkError: Connect error when connect to devservice:2000 ([Errno 61] Connection refused)

Traceback (most recent call last)

File "/Users/youngking/zhihu/zhihu/apps/web/views/__init__.py", line *339*, in _execute

```
getattr(self, self.request.method.lower())(*args, **kwargs)
```

File "/Users/youngking/zhihu/zhihu/apps/web/views/home/__init__.py", line *43*, in get

```
self._login()
```

File "/Users/youngking/zhihu/zhihu/apps/web/views/home/__init__.py", line *78*, in _login

```
self.render('desktop/index.html', selected_tab='signup', login_error=None, prefilled_email=None)
```

File "/Users/youngking/zhihu/zhihu/apps/web/views/__init__.py", line *94*, in render

```
html = str(TemplateNode(self, template_name, **kwargs))
```

```
[console ready]
>>> dir()
['kwargs', 'self', 'template_name']
>>>
```

File "/Users/youngking/.buildout/eggs/ZhihuNode-0.0.25-py2.7.egg/zhihunode/__init__.py", line *234*, in __str__

```
return self.recursive_render()
```

File "/Users/youngking/.buildout/eggs/ZhihuNode-0.0.25-py2.7.egg/zhihunode/__init__.py", line *265*, in recursive_render

```
[new_nodes.extend(x.render_list()[1]) for x in nodes if not x.cache_params()]
```

File "/Users/youngking/.buildout/eggs/ZhihuNode-0.0.25-py2.7.egg/zhihunode/__init__.py", line *340*, in render_list

```
kwargs = self.get_obj()
```

File "/Users/youngking/.buildout/eggs/ZhihuNode-0.0.25-py2.7.egg/zhihunode/__init__.py", line *318*, in get_obj

```
self._compiled = self.obj()
```

File "/Users/youngking/zhihu/zhihu/apps/core/ui/uimodules/home.py", line *66*, in obj

```
m = rpc.zhkernel.get_member(id=hero_id, info_type='advanced')
```

File "/Users/youngking/.buildout/eggs/zmemcache-0.3.9-py2.7-macosx-10.9-x86_64.egg/zmemcache/__init__.py", line *235*, in fcall

```
value = fcall.nocache(*args, **kwargs)
```

Werkzeug

```
Debug: Using settings: adding file resource 'localcacert': 'File[/var/lib/puppet/ssl/certs/ca.pem]{:path=>"/var/lib/puppet/ssl/certs/ca.pem", :mo
>"644", :owner=>"puppet", :ensure=>:file, :loglevel=>:debug, :links=>:follow, :backup=>false}'
Debug: Using settings: adding file resource 'hostcrl': 'File[/var/lib/puppet/ssl/crl.pem]{:path=>"/var/lib/puppet/ssl/crl.pem", :mode=>"644", :ow
=>"puppet", :ensure=>:file, :loglevel=>:debug, :links=>:follow, :backup=>false}'
Debug: /File[/var/lib/puppet/state]: Autorequiring File[/var/lib/puppet]
Debug: /File[/var/lib/puppet/lib]: Autorequiring File[/var/lib/puppet]
Debug: /File[/var/lib/puppet/ssl/certs]: Autorequiring File[/var/lib/puppet/ssl]
Debug: /File[/var/lib/puppet/ssl]: Autorequiring File[/var/lib/puppet]
Debug: /File[/var/lib/puppet/ssl/public_keys]: Autorequiring File[/var/lib/puppet/ssl]
Debug: /File[/var/lib/puppet/ssl/certificate_requests]: Autorequiring File[/var/lib/puppet/ssl]
Debug: /File[/var/lib/puppet/ssl/private_keys]: Autorequiring File[/var/lib/puppet/ssl]
Debug: /File[/var/lib/puppet/ssl/private]: Autorequiring File[/var/lib/puppet/ssl]
Debug: /File[/var/lib/puppet/ssl/certs/ca.pem]: Autorequiring File[/var/lib/puppet/ssl/certs]
Debug: /File[/var/lib/puppet/ssl/crl.pem]: Autorequiring File[/var/lib/puppet/ssl]
Debug: Finishing transaction 15792740
Info: Creating a new SSL key for
Debug: Using cached certificate for ca
Info: Creating a new SSL certificate request for
Info: Certificate Request fingerprint (SHA256): 09:99:A0:B9:E9:8B:1B:48:BE:E1:5C:69:81:7B:7F:FC:64:90:FA:23:11:80:E0:29:E2:32:ED:45:1C:EA:85:37
Debug: Using cached certificate for ca
Info: Caching certificate for
Debug: Using settings: adding file resource 'statefile': 'File[/var/lib/puppet/state/state.yaml]{:path=>"/var/lib/puppet/state/state.yaml", :mode
660", :ensure=>:file, :loglevel=>:debug, :links=>:follow, :backup=>false}'
Debug: Using settings: adding file resource 'clientyamldir': 'File[/var/lib/puppet/client_yaml]{:path=>"/var/lib/puppet/client_yaml", :mode=>"750
:ensure=>:directory, :loglevel=>:debug, :links=>:follow, :backup=>false}'
Debug: Using settings: adding file resource 'client_datadir': 'File[/var/lib/puppet/client_data]{:path=>"/var/lib/puppet/client_data", :mode=>"75
 :ensure=>:directory, :loglevel=>:debug, :links=>:follow, :backup=>false}'
Debug: Using settings: adding file resource 'classfile': 'File[/var/lib/puppet/state/classes.txt]{:path=>"/var/lib/puppet/state/classes.txt", :mo
>"640", :owner=>"root", :ensure=>:file, :loglevel=>:debug, :links=>:follow, :backup=>false}'
Debug: Using settings: adding file resource 'resourcefile': 'File[/var/lib/puppet/state/resources.txt]{:path=>"/var/lib/puppet/state/resources.tx
 :mode=>"640", :owner=>"root", :ensure=>:file, :loglevel=>:debug, :links=>:follow, :backup=>false}'
Debug: Using settings: adding file resource 'clientbucketdir': 'File[/var/lib/puppet/clientbucket]{:path=>"/var/lib/puppet/clientbucket", :mode=>
0", :ensure=>:directory, :loglevel=>:debug, :links=>:follow, :backup=>false}'
Debug: Using settings: adding file resource 'lastrunfile': 'File[/var/lib/puppet/state/last_run_summary.yaml]{:path=>"/var/lib/puppet/state/last_
_summary.yaml", :mode=>"644", :ensure=>:file, :loglevel=>:debug, :links=>:follow, :backup=>false}'
Debug: Using settings: adding file resource 'lastrunreport': 'File[/var/lib/puppet/state/last_run_report.yaml]{:path=>"/var/lib/puppet/state/last
n_report.yaml", :mode=>"640", :ensure=>:file, :loglevel=>:debug, :links=>:follow, :backup=>false}'
```

Puppet

```
zhihu@marvin:/data/scripts/deploy_scripts$ ./shipit.sh hot-v7.00-1.702
 I am fetching the code
remote: Counting objects: 276, done.
remote: Compressing objects: 100% (131/131), done.
remote: Total 131 (delta 106), reused 0 (delta 0)
Receiving objects: 100% (131/131), 48.91 KiB, done.
Resolving deltas: 100% (106/106), completed with 59 local objects.
From git.in.zhihu.com:zhihu/zhihu-web
   a066603..c4133fc  T10346     -> origin/T10346
   eba8ad0..59fa7cc  hotfix     -> origin/hotfix
 * [new tag]         hot-v7.00-1.702 -> hot-v7.00-1.702
From git.in.zhihu.com:zhihu/zhihu-web
 * [new tag]         hot-v7.00-1.701 -> hot-v7.00-1.701
remote: Counting objects: 41, done.
remote: Compressing objects: 100% (11/11), done.
remote: Total 11 (delta 8), reused 0 (delta 0)
Unpacking objects: 100% (11/11), done.
From git.in.zhihu.com:zhihu/zhihu-web
 * [new tag]         update-config-test-v0.1 -> update-config-test-v0.1
 finish fetching the code
 I am checking out the tag
Previous HEAD position was f78771d... Merge remote-tracking branch 'zhihu/hotfix' into fix/T12323
HEAD is now at 59fa7cc... remove ab test
 finish checkout out the code
 buildout
Develop: '/data/zhihu/.'
Unused options for buildout: 'include-site-packages' 'unzip'.
Updating closure-library.
closure-library: Running git submodule update
Updating plovr.
Updating npm.
npm: Running npm install
```

Shipit

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宝贝类型：全新

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行车记录仪 修改

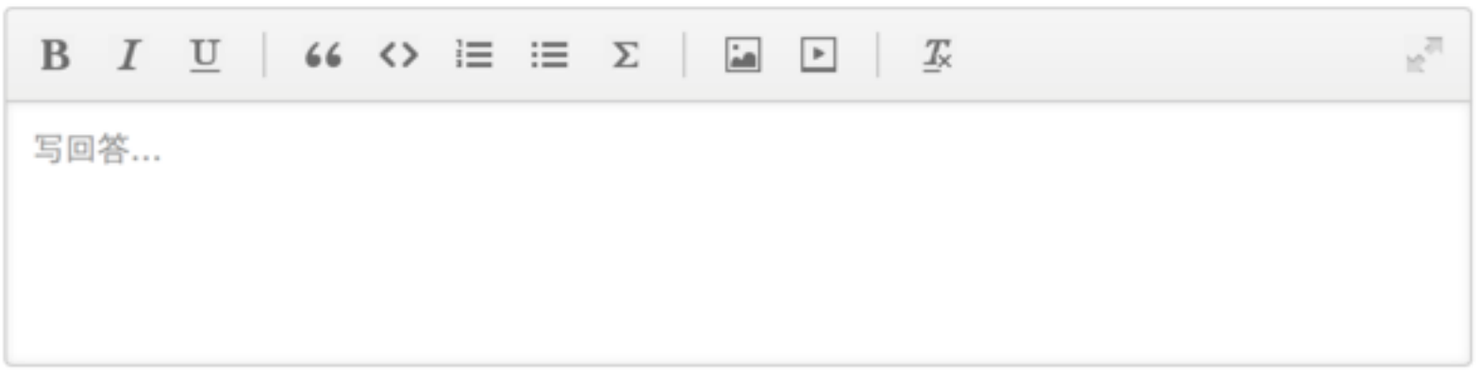
北京海淀区哪里找小[redacted]? 修改

北京海淀，可上门，加扣扣:[redacted]
北京朝阳，可上门，加扣扣:[redacted]
北京东城，可上门，加扣扣:[redacted]
北京大兴，可上门，加扣扣:[redacted]

修改

添加评论 分享 • 邀请回答 举报

李奇，Product Designer ... 修改话题经验



匿名 发布回答

关注

1 人关注该问题

相关问题

目前功能最强大的行车记录仪有哪些?
11 个回答

私家小汽车有必要安装行车记录仪吗?
6 个回答

关于行车记录仪? 1 个回答

倒车雷达为何不直接刹车? 8 个回答

分享问题

微博 站内私信

问题状态

最近活动于 12:32 • 查看问题日志
被浏览 7 次，相关话题关注者 141 人

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日志系统

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集中存储

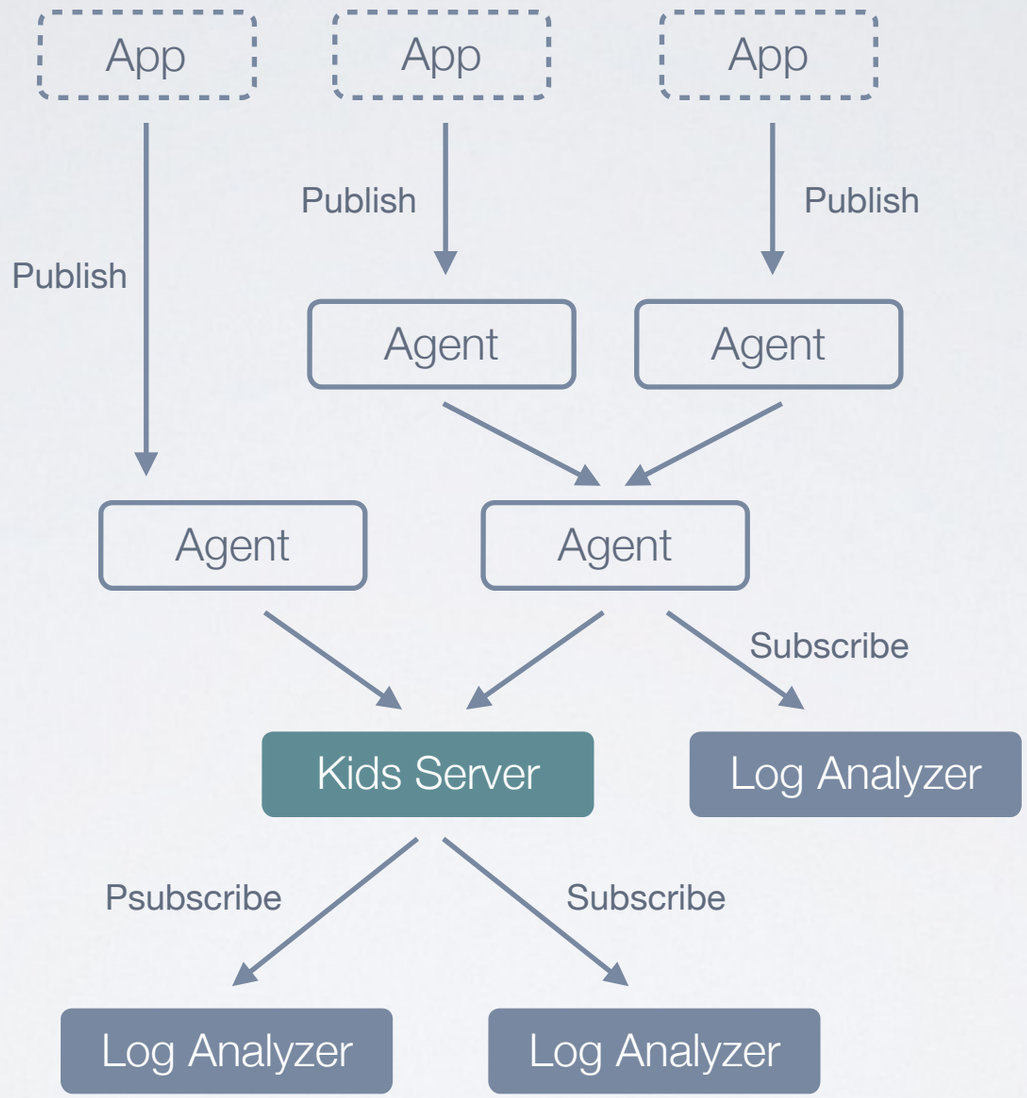
可订阅

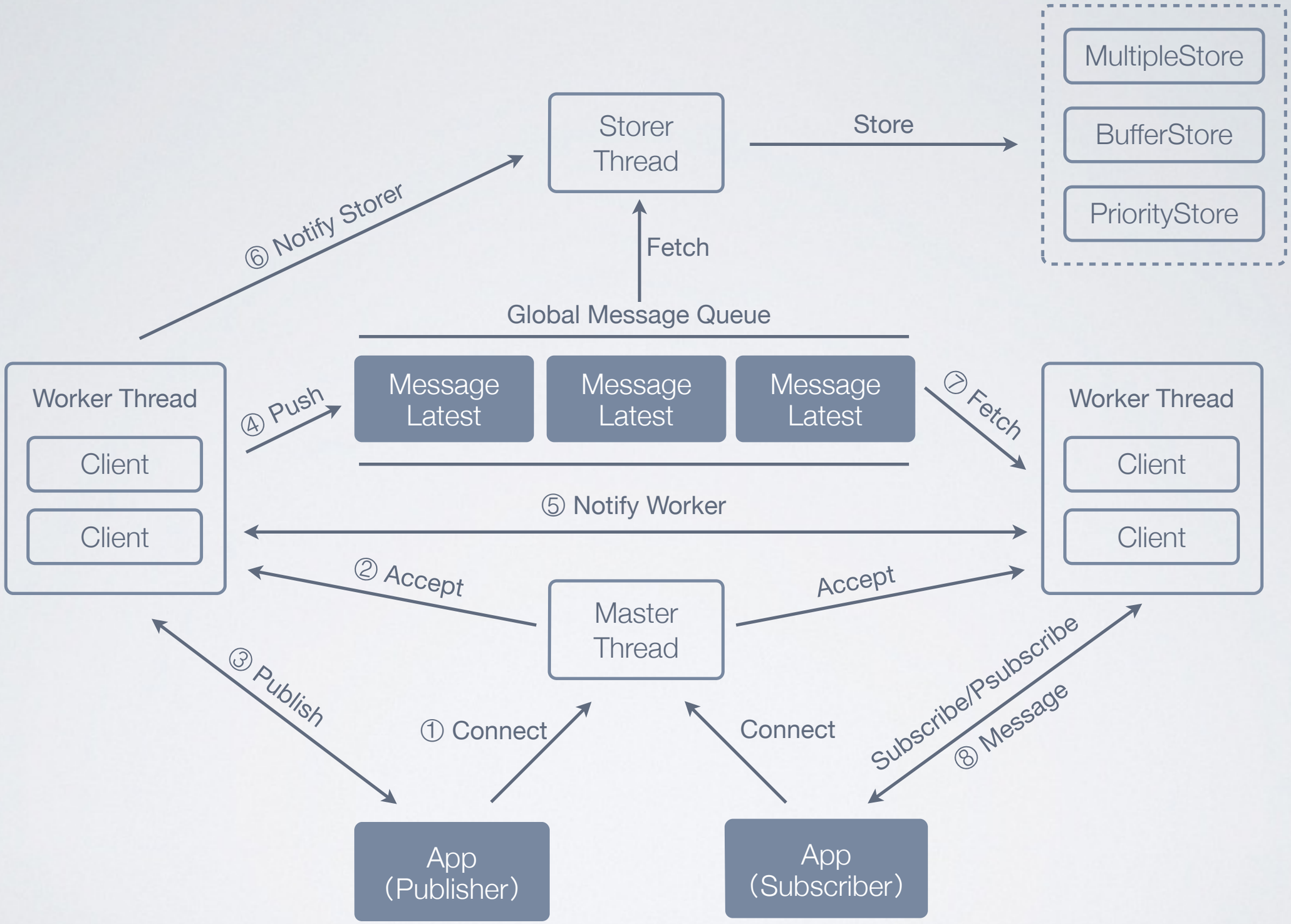
实时

简单

Scribe	无法订阅
Kafka	Scala
Flume	Java

Kids


App
App
App
Publish
Publish
Publish
Agent
Agent
Agent
Agent
Subscribe
Kids Server
Log Analyzer
Psubscribe
Subscribe
Log Analyzer
Log Analyzer


MultipleStore
BufferStore
PriorityStore
Storer Thread
Store
⑥ Notify Storer
Fetch
Global Message Queue
Worker Thread
Client
Client
④ Push
Message Latest
Message Latest
Message Latest
⑦ Fetch
Worker Thread
Client
Client
⑤ Notify Worker
② Accept
Master Thread
Accept
③ Publish
① Connect
Connect
Subscribe/Psubscribe
⑧ Message
App (Publisher)
App (Subscriber)

+ topic

始终显示最新日志

warning zhihu.web "[W 141217 16:14:26 web:1404 webserver08:33185] 400 POST /collection/0 (121.199.53.124): Bad intger value"
warning zhihu.web "[W 141217 16:14:26 web:1811 webserver08:33185] 400 POST /collection/0 (121.199.53.124) 4.52ms"
warning zhihu.web "[W 141217 16:14:26 web:1404 webserver05:12711] 400 POST /collection/0 (121.199.53.124): Bad intger value"
warning zhihu.web "[W 141217 16:14:26 web:1811 webserver05:12711] 400 POST /collection/0 (121.199.53.124) 7.06ms"
warning zhihu.web "[W 141217 16:14:26 web:1404 webserver06:29586] 400 POST /collection/0 (121.199.53.124): Bad intger value"
warning zhihu.web "[W 141217 16:14:26 web:1811 webserver06:29586] 400 POST /collection/0 (121.199.53.124) 4.42ms"
warning zhihu.web "[W 141217 16:14:26 web:1404 webserver08:33924] 400 POST /collection/0 (121.199.53.124): Bad intger value"
warning zhihu.web "[W 141217 16:14:26 web:1811 webserver08:33924] 400 POST /collection/0 (121.199.53.124) 5.62ms"
warning zhihu.web "[W 141217 16:14:26 web:1404 webserver06:29604] 400 POST /collection/0 (121.199.53.124): Bad intger value"
warning zhihu.web "[W 141217 16:14:26 web:1811 webserver06:29604] 400 POST /collection/0 (121.199.53.124) 4.56ms"
error zhihu.web "[E 141217 16:14:26 web:1811 webserver04:14994] 503 GET /people/lan-yuan-ting (218.247.253.130) 4.32ms"
warning zhihu.web "[W 141217 16:14:26 web:1404 webserver04:14556] 400 POST /collection/0 (121.199.53.124): Bad intger value"
warning zhihu.web "[W 141217 16:14:26 web:1811 webserver04:14556] 400 POST /collection/0 (121.199.53.124) 5.73ms"
warning zhihu.web "[W 141217 16:14:28 web:1404 webserver05:14099] 400 POST /collection/0 (121.199.53.124): Bad intger value"
warning zhihu.web "[W 141217 16:14:28 web:1811 webserver05:14099] 400 POST /collection/0 (121.199.53.124) 4.33ms"
warning zhihu.web "[W 141217 16:14:28 web:1404 webserver06:28785] 400 POST /collection/0 (121.199.53.124): Bad intger value"
warning zhihu.web "[W 141217 16:14:28 web:1811 webserver06:28785] 400 POST /collection/0 (121.199.53.124) 5.12ms"
warning zhihu.web "[W 141217 16:14:28 web:2939 webserver07:28071] Invalid cookie signature 'ZDMzMzNkZDMzMzJkYTFhZWQwMmVl...
warning zhihu.web "[W 141217 16:14:28 web:2939 webserver07:28071] Invalid cookie signature 'ZDMzMzNkZDMzMzJkYTFhZWQwMmVl...
warning zhihu.web "[W 141217 16:14:28 web:2939 webserver07:28071] Invalid cookie signature 'ZDMzMzNkZDMzMzJkYTFhZWQwMmVl...
warning zhihu.web "[W 141217 16:14:28 web:2939 webserver07:28071] Invalid cookie signature 'ZDMzMzNkZDMzMzJkYTFhZWQwMmVl...
warning zhihu.web "[W 141217 16:14:28 web:2939 webserver07:28071] Invalid cookie signature 'ZDMzMzNkZDMzMzJkYTFhZWQwMmVl...
warning zhihu.web "[W 141217 16:14:28 web:2939 webserver07:28071] Invalid cookie signature 'ZDMzMzNkZDMzMzJkYTFhZWQwMmVl...

grep

default warning error 只保留: 500 条日志

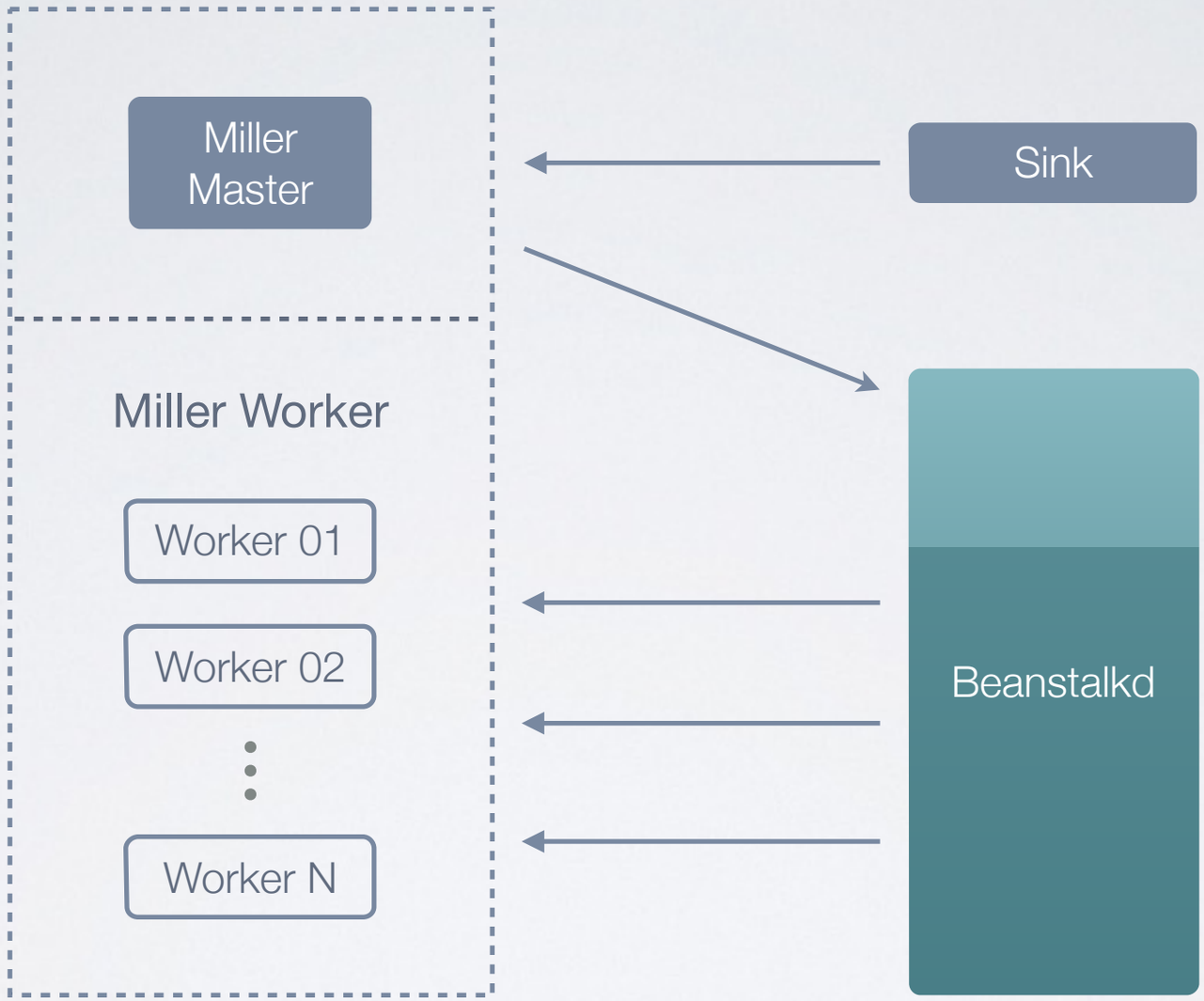
github.com/zhihu/kids

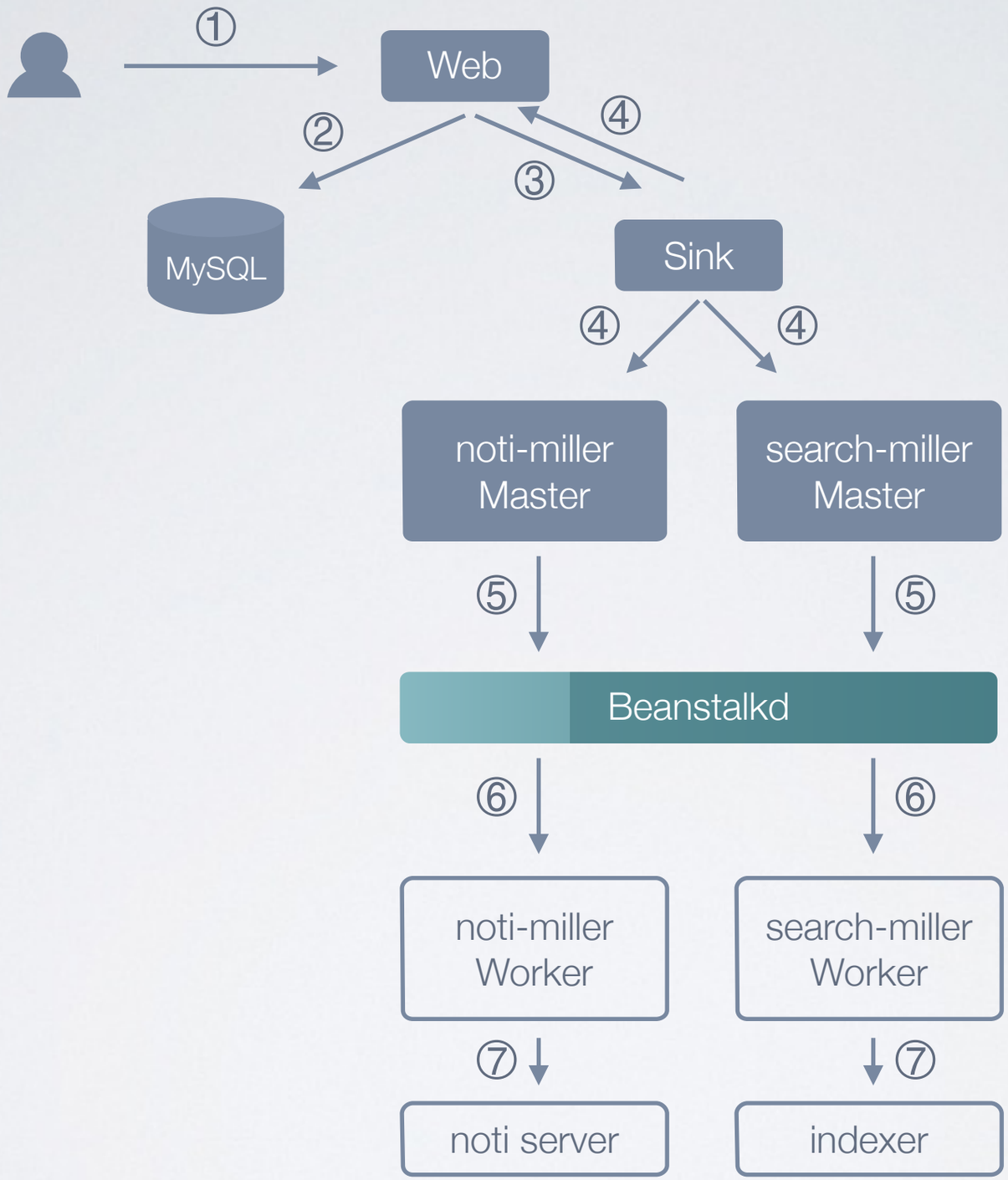
添加回答

更新通知

更新动态

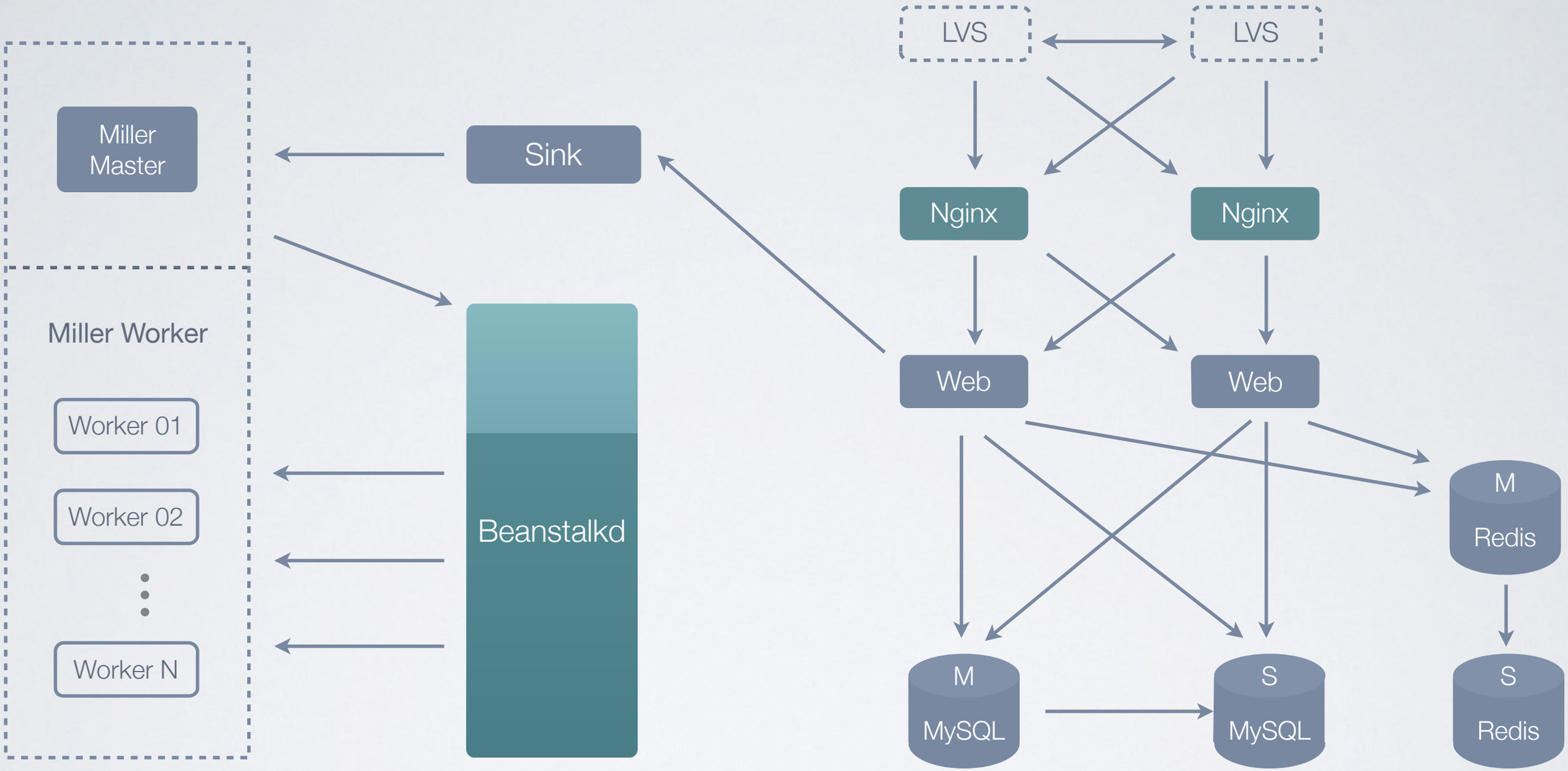
Event Driven Architecture


Miller
Master
Sink
Miller Worker
Worker 01
Worker 02
Worker N
Beanstalkd


①
Web
②
③
④
MySQL
Sink
④
④
noti-miller
Master
search-miller
Master
⑤
⑤
Beanstalkd
⑥
⑥
noti-miller
Worker
search-miller
Worker
⑦
⑦
noti server
indexer

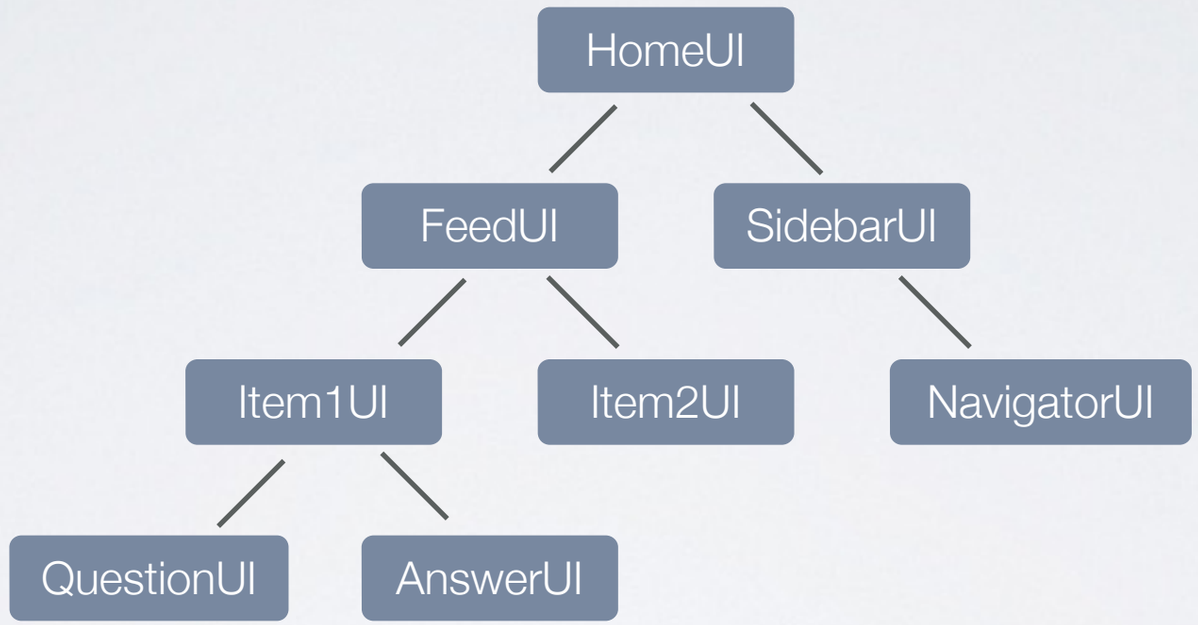
In 100+

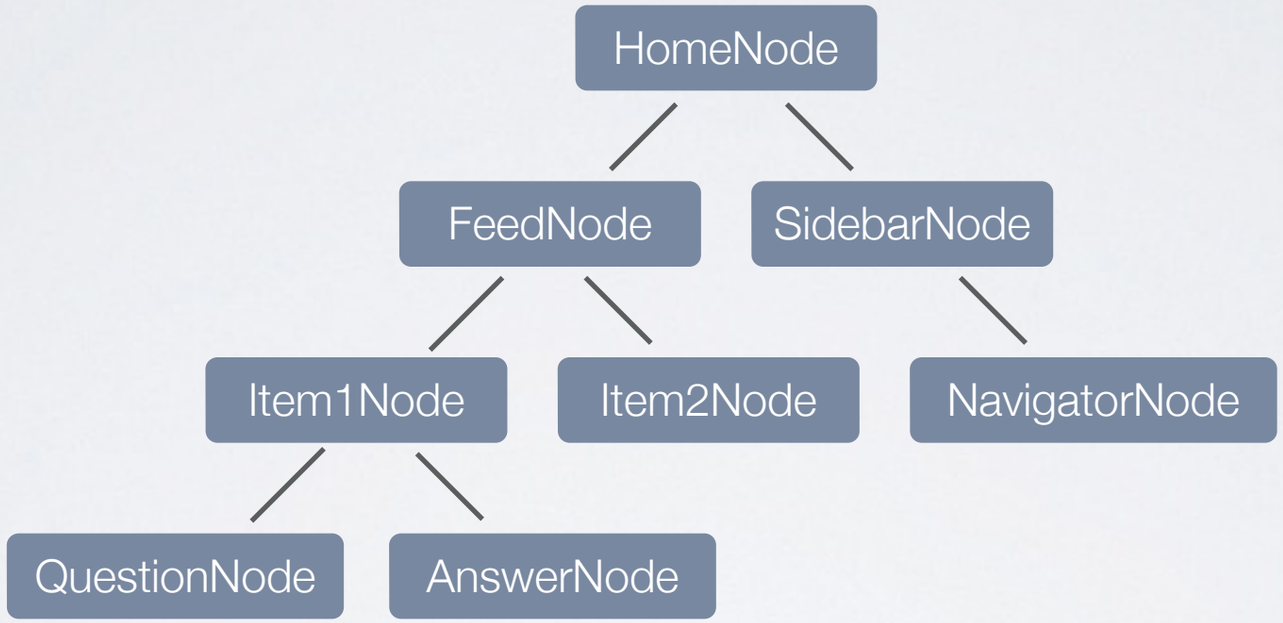
Out 1500+


Miller
Master
Miller Worker
Worker 01
Worker 02
Worker N
Sink
Beanstalkd
LVS
LVS
Nginx
Nginx
Web
Web
M
Redis
M
MySQL
S
MySQL
S
Redis

页面渲染优化

```
class QuestionHandler(BaseHandler,
                      TopicMixin,
                      AnswerMixin,
                      NotifyMixin,
                      CommentMixin,
                      QuestionMixin,
                      XmlrpcMixin):

    @tornado
    def get(self, token):
        if not self.current_user:
            return self._noauth(token)
        no_redirect = self.get_argument("nr",None)
        is_new = self.get_argument("new",None)
        rf = self.get_argument("rf",None)
        should_send_ajax = bool(self.get_argument('thread_id', False)) \
                or bool(self.get_argument('edit_id', False))
        question = self.get_my_question_by_token(token)

        notifys = []
        question_suggest=self.get_argument('q',None)

        if not question or question.is_delete:
            raise tornado.web.HTTPError(404)

        redirect_to = self.get_question_redirect(question)
        if redirect_to and not rf and not no_redirect:
            qs = "?q=%s"%question_suggest if question_suggest else ""
            return self.redirect("/question/%s/%s%s" % (redirect_to.url_token,
                                                        question.url_token, qs))

        suggested_topics = None
        if is_new:
            suggested_topics = self.suggest_topics(question)

        redirect_from = None
        if rf:
            redirect_from = self.question_dao.get_question_by_token(rf)

        # topics
        bound_topics = self.get_bound_topics(question.id)
        topic_bios = [
            (
                (t.name, t.url_token, self.get_avatar_url(t.avatar_path, is_topic=True), t.id),
                self.member_dao.get_bio(self.current_user.id, t.id)
            )
            for t in bound_topics
        ]

        answers = self.answer_dao.get_answers_by_question(question.id)
        answers = [a for a in answers if a.is_public or a.member_id == self.current_user.id]

        #TODO key error: it must restructure the question-answer
        #display
        answer_author_member_ids = []
        friends_list = []

        anonymous_authors = self.question_dao.get_anonymous_members(question.id)
        for answer in answers:
            if answer.member_id not in anonymous_authors:
                answer_author_member_ids.append(answer.member_id)

        answer_authors = self.member_dao.get_members(answer_author_member_ids)
        answer_author_ids = []
        followed_member_ids = self.member_dao.get_followed_ids(self.current_user.id, limit = None)
        for answer_author in answer_authors:
            answer_author_ids.append(answer_author.id)
            if answer_author.id in set(followed_member_ids):
                friends_list.append(answer_author.member_id)

        blockers = self.block_dao.query(member_id=answer_author_ids, block_id=self.current_user.id)
        blocker_ids = [blocker.member_id for blocker in blockers]
        blockers = self.member_dao.get_members_by_ids(blocker_ids)
        blocker_member_ids = [blocker.member_id for blocker in blockers]
        friends_list = list(set(friends_list).difference(set(blocker_member_ids)))

        # question data
        data = self.get_single_question_data(question, answers, bound_topics)

        # draft
        draft = self.answer_dao.get_draft(question.id, self.current_user.id)
        draft_data = []
        if draft:
            draft_data = (draft.content,draft.created)

        # my fanlist
        my_fanlists = self.fanlist_dao.get_fanlists_by_owner_id(self.current_user.id)
        my_list = []
        for my_fanlist in my_fanlists:
            answers_num = self.fanlist_dao.get_answers_num(my_fanlist.id)
            followers_num = self.fanlist_dao.get_followers_num(my_fanlist.id)
            my_list.append((my_fanlist.id, my_fanlist.title, my_fanlist.description, answers_num, followers_num))

        # check if there are error when adding question
        topic_error = self.get_secure_cookie("question_%s"%question.id)
        if topic_error:
            notifys.extend(topic_error.split(','))
            self.clear_cookie("question_%s"%question.id)

        return self.auto_render('v2_question.html',
                                question = question,
                                question_data = data,
                                topic_bios = topic_bios,
                                notifys = notifys,
                                #bound_topics = bound_topics,
                                draft_data = draft_data,
                                suggested_topics = suggested_topics,
                                redirect_from = redirect_from,
                                should_send_ajax = should_send_ajax,
                                redirect_to = redirect_to,
                                excerpt = texts.excerpt,
                                friends_list = friends_list,
                                my_list = my_list,
                                blocker_member_ids=blocker_member_ids,
                                question_suggest=question_suggest)

    def _remove(self,token):
        question = self.question_dao.get_question_by_token(token)
        if not question or question.is_delete or question.locked:
```


HomeUI
FeedUI
SidebarUI
Item1UI
Item2UI
NavigatorUI
QuestionUI
AnswerUI


HomeNode
FeedNode
SidebarNode
Item1Node
Item2Node
NavigatorNode
QuestionNode
AnswerNode

ZhihuNode

```
class AnswerVoteBarV2(ZhihuNode):

    def init(self, answer_id):
        self.answer_id = answer_id

    def template_v2(self):
        return "v2_uimodule_answer_votebar.html"

    def prime(self):
        models.AnswerDAO.prime_get_vote(self.login_id, self.answer_id)

    def obj(self):
        vote = models.AnswerDOA.get_vote(self.login_id, self.answer_id)
        return ObjectDict(vote=vote)
```

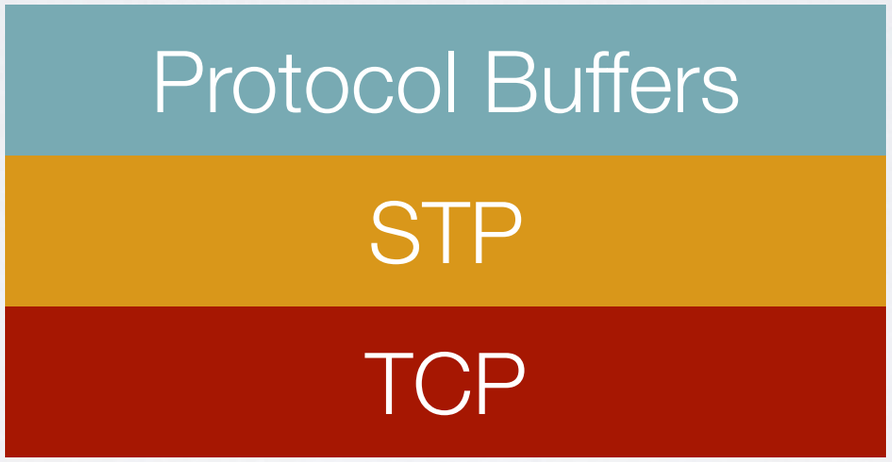
Question 500ms -> 150ms

Feed 1s -> 600ms

Service-oriented architecture

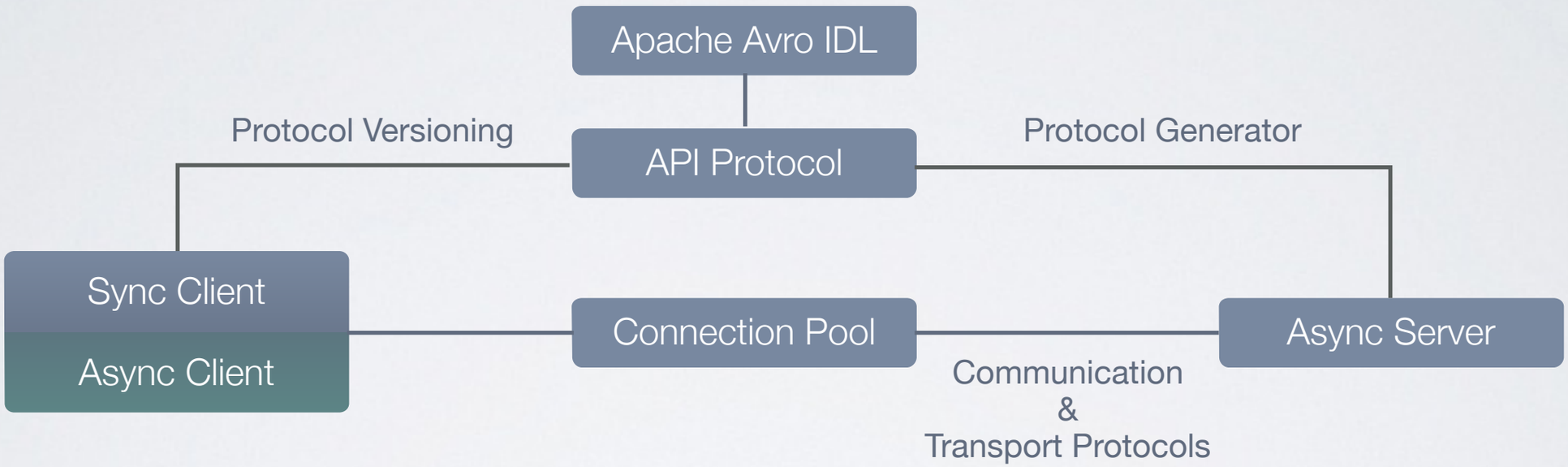
RPC 框架变迁史

Wish



Snow

Zone


Apache Avro IDL
Protocol Versioning
API Protocol
Protocol Generator
Sync Client
Async Client
Connection Pool
Async Server
Communication
&
Transport Protocols

Apache Avro - IDL

```
// Google Protocol Buffer
message CalcResponse {
  enum Result {
    OK = 0;
    ZERO_DIVISION = 1;
  }
  required Result result = 1;
  optional int32 c = 2;
}
message CalcRequest {
  int32 a = 1;
  int32 b = 2;
}
service Calc {
  rpc Divide (CalcRequest) returns (CalcResponse);
}
```

```
// Apache Avro
protocol Calc {
  error ZeroDivision {
    string message;
  }

  int divide(int a, int b) throws ZeroDivision;
}
```

Apache Avro - API Protocol File

```
// Wish's generated files…
xxx_pb2.py
xxx_stub.py
descriptor_pb2.py
```

```
// Apache Avro's generated file, simply a snippet of JSON
{
  "Calc": {
    "messages": {
      "divide": {
        "errors": ["ZeroDivision"],
        "reqest": [{"name": "a", "type": "int"},
                   {"name": "b", "type": "int"}],
        "response": "int"}},
    "namespace": None,
    "protocol": "Calc",
    "types": [
      {"fields": [{"name": "message", "type": "string"}],
       "name": "ZeroDivision",
       "type": "error"}
    ]
  }
}
```

Server Example

```
import snow
class Calc(snow.APIBase):

    def divide(self, a, b):
        if b == 0:
         return {"code": 1, "msg": "Zero
division."}
     return {"code": 0, "c": a / b}

snow.Server(Calc(), port=9000).run()
```

```
import zone
from proto import protos

class Calc(zone.ZoneAPI):

    def divide(self, a, b):
        if b == 0:
            raise
zone.ZoneCustomException(name="ZeroDivision")
        return a / b

zone.Server([Calc(protos["Calc"])],
port=9000).run()
```

Header
Body
Serializer (Avro / JSON)
Transporter (Binary/STP)
TCP

SERVICES NODES KEY/VALUE ACL TJ

Filter by name | any status | EXPAND

- cadvisor 3 passing
- censor2 8 passing
- column 2 passing
- consul 5 passing
- dcache 6 passing
- kernel 6 passing
- lastkids 1 passing
- lastread 5 passing
- pico 4 passing
- pico-rethinkdb 4 passing
- qa 6 passing
- webserver 8 passing

cadvisor

TAGS

No tags

NODES

bay02.xxx.xxx.zhihu.com 10.0.0.0 1 passing

Serf Health Status serfHealth passing

bay03.xxx.xxx.zhihu.com 10.0.0.0 1 passing

Serf Health Status serfHealth passing

bay04.xxx.xxx.zhihu.com 10.0.0.0 1 passing

Serf Health Status serfHealth passing

Consul

Zipkin Investigate system behavior | Find a trace

Duration: 251.305ms **Services:** 6 **Depth:** 2 **Total Spans:** 140

Expand All | Collapse All | Fil…

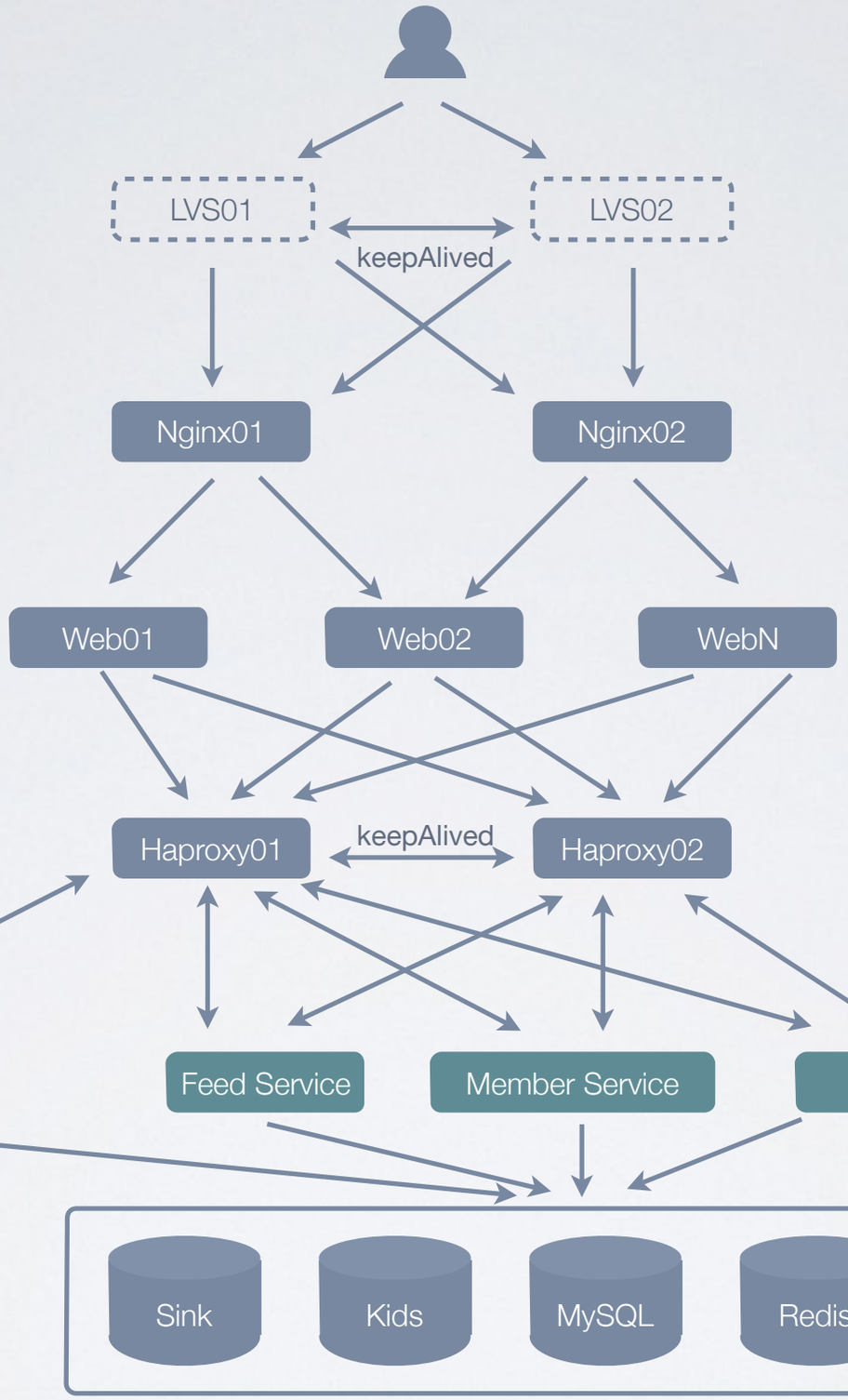
kernel x1 | redis x68 | sql x67 | tieup x1 | url x1 | ztext x2

Services	50.261ms	100.522ms	150.783ms	201.044ms	251.305ms
– url	251.305ms : QuestionAddHandler				
redis	246µ : GET				
redis	255µ : ZSCORE				
redis	243µ : ZRANGEBYSCORE				
redis	529µ : GET				
redis	256µ : GET				
redis	194µ : PUBLISH				
redis	268µ : GET				
ztext	849µ : ZInputText				
ztext	233µ : ZText2				
tieup	4.495ms : Tieup_IsAbleTo				
sql	1.411ms : SELECT				
sql	501µ : SELECT				
sql	870µ : SELECT				
sql	2.953ms : INSERT				
sql	1.799ms : INSERT				
sql	2.320ms : SELECT				
redis	355µ : SETEX				
redis	231µ : DEL				
sql	1.189ms : SELECT				
redis	246µ : SETEX				
sql	1.603ms : SELECT				
redis	2.103ms : SETEX				

Tracing

知乎业务服务结构图

聚合层
话题 Feed
首页 Feed
发现
搜索
推荐
收藏
圆桌
• • •
内容层
问答
专栏
通知
私信
已读
• • •
基础层
用户
评论
图片
推送
分享
话题
邮件
短址
• • •
数据服务
逻辑服务
通道服务



前端展示层

后端业务逻辑层

存储&通信层

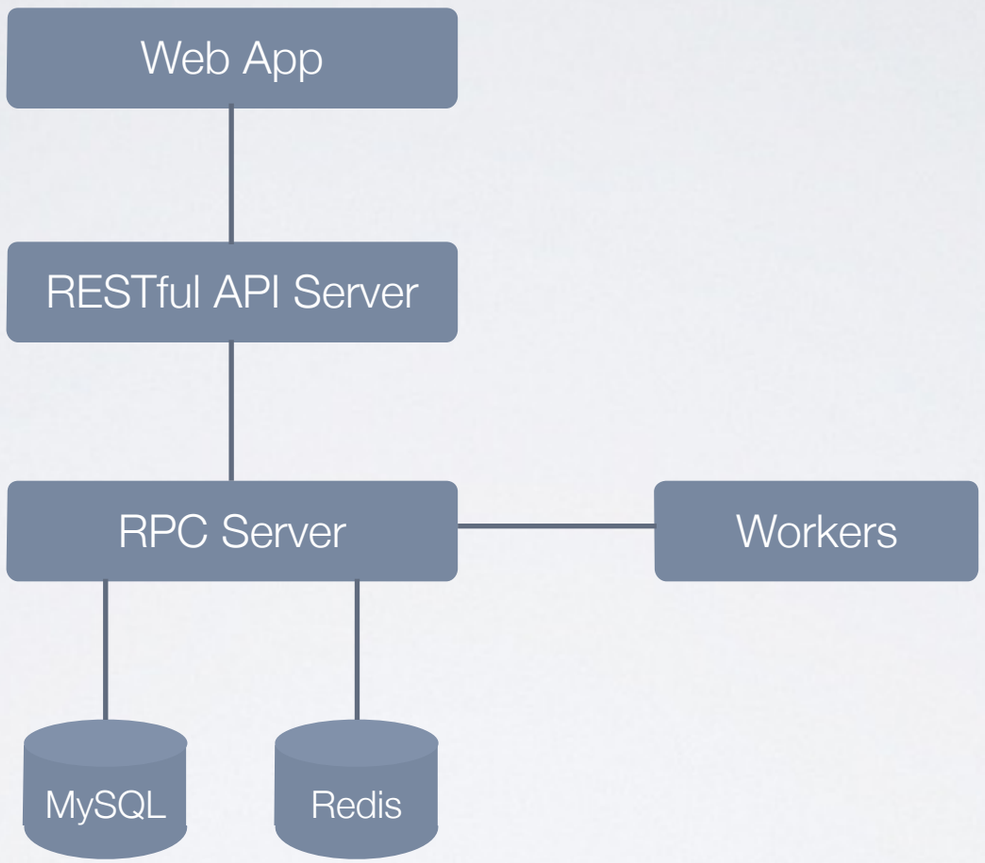
知乎专栏的全新实践

传统网站的开发模式

前后端代码交叉

工程师互相等待

前端代码部署成本高


Web App
RESTful API Server
RPC Server
Workers
MySQL
Redis

前后端分离，逻辑更清晰

AngularJS：代码复用、快速开发

并行开发

独立部署

<(▰˘◡˘▰)>

产品设计师也能修改代码了

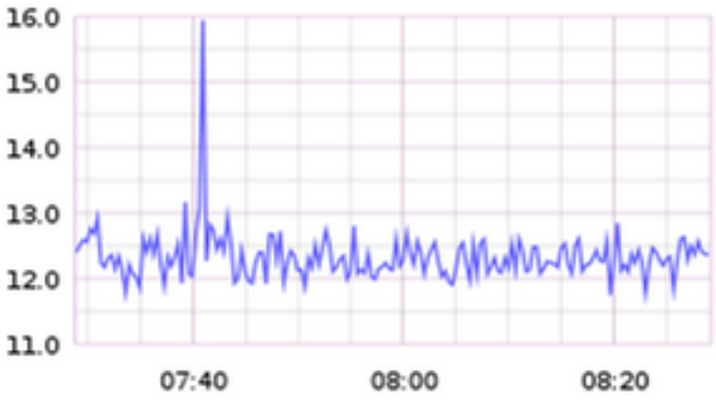
工具要不斷跟上

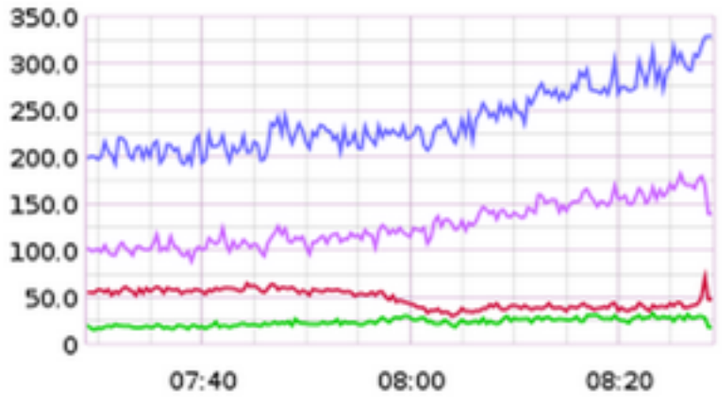
Descartes Home Graphs **Dashboards** Chartroulette Metrics

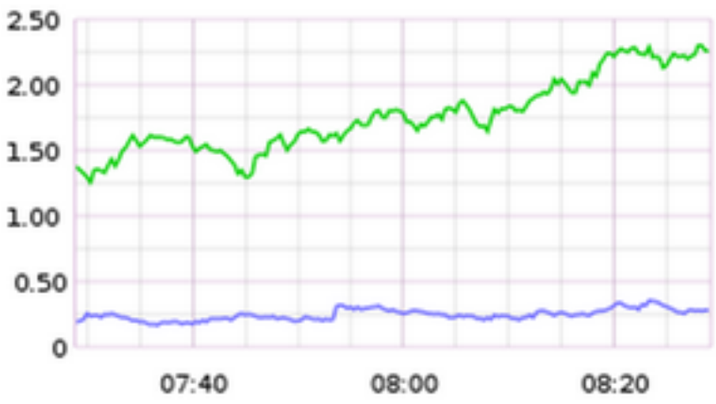
☆ 性能指标

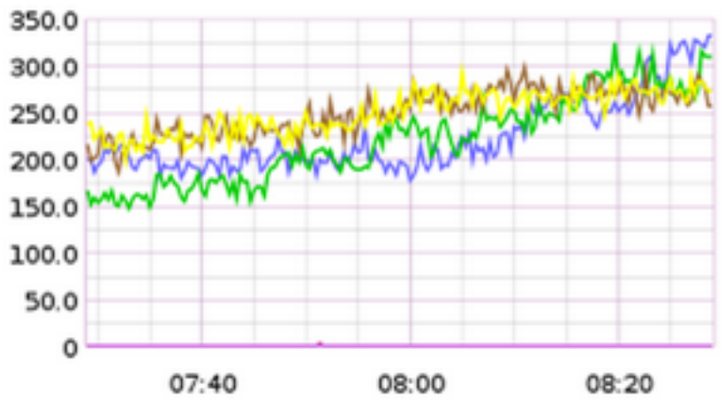
search graphs

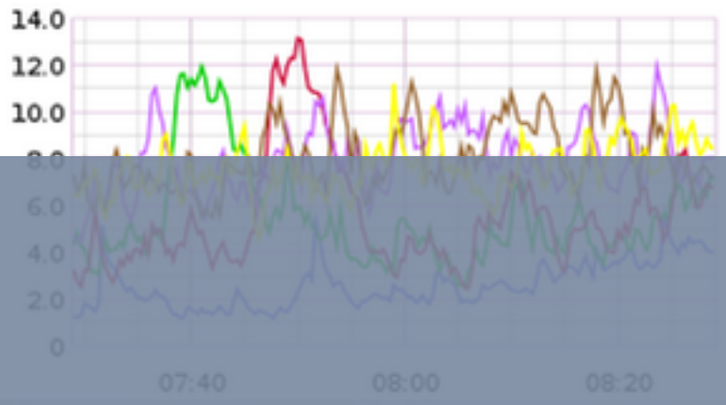
Sort - Default | Interval - 1 hour | Columns 1 2 3 4

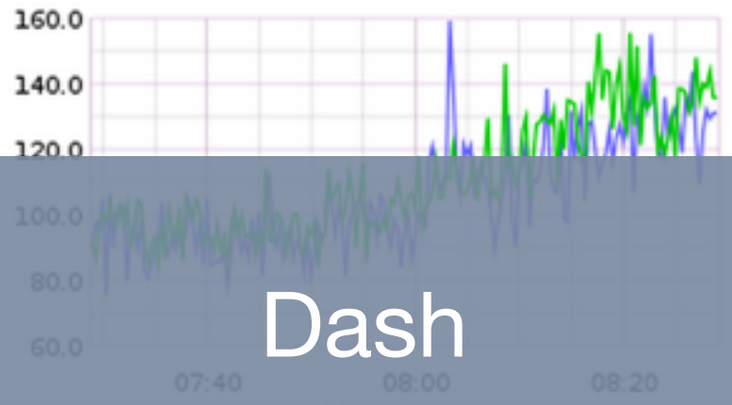












Dash

Heroin

基本信息

当前线上 tag:	hot-v7.00-1.705
描述:	tracing: using tracing.harvest.request_time
上线人:	nicaiwoshishui@zhihu.com
时间:	2014-12-18 23:39:16 ⇝ 2014-12-18 23:41:44
是否成功:	1
类型:	all

查看上线记录

新建一次上线

Heroin

Radius Monitor Manager Login

全部动态 (返回)

811K	811K	85M	812K	3G	811K	811K	2G	2G	3G	7G	7G	811K	811K	811K	811K	43M	39M	26M	32M
811K	811K	811K	811K	811K	1G	1G	634M	1G	1G	10G	9G	2G	2G	2G	2G	2G	2G	811K	2G
811K	2G	811K	2G	2G	811K	2G	2G	811K	2G	811K	811K	2G	2G	811K	2G	2G	811K	2G	847K
1G	2G	811K	811K	811K	811K	811K	847K	811K	847K	811K	811K	7G	7G	7G	7G	7G	7G	7G	7G
7G	7G	7G	7G	7G	7G	7G	811K	7G	811K	811K	811K	811K	811K	811K	522M	811K	811K	811K	811K
811K	811K	811K	811K	811K	811K	26G	1M	36G	38G	36G	28G	3G	32G	32G	24G	42G	24G	26G	29G
14G	39G	29G	23G	29G	38G	29G	20G	27G	21G	22G	29G	24G	31G	893K	17G	40G	23G	28G	20G
643M	934K	389M	4G	819M	932M	913M	626M	924K	745M	818K	815M	976M	862M	863M	608M	851M	625M	758M	997M
683M	755M	720M	684M	747M	936M	813K	813K	814K	813K	812K	813K	815K	812K	813K	614M	815K	610M	814K	475M
308M	813K	813K	657M	813K	606M	813K	481M	813K	460M	676M	813K	397M	812K	478M	698M	651M	814K	635M	499M
639M	814K	473M	614M	531M	511M	598M	621M	1M	467M	507M	642M	485M	811K	43M	31M	49M	856M	2M	787M
1G	789K	4M	798M	844M	774M	750M	800M	3M	609M	791K	811M	995K	791K	852K	824K	824K	835K	3M	838K
3M	974K	1M	2M	2M	3G	921K	2G	933M	163M	780M	9M	959M	2G	977M	3G	834M	791K	844M	893K
4G	951M	301M	911M	833M	4M	731M	217M	3M	327M	2M	354M	230M	92M	811K	81M	314M	176M	29M	311M
14M	328M	217M	815K	811K	16M	811K	16M	811K	811K	811K	811K	812K	814K	811K	703M	614M	978M	802M	726M

Radius

配置宝 Services Agents Logout CfbOffice

antispam /development

Profiles

★ development

production

Associations

.* --> development

注意 主机名完全匹配的优先关联。否则按正则的长度从大到小匹配，直到匹配成功

Add History

Switch mode:

tree

object {1}

redis-host : redis.antispam...

Update History

CFB

Crony | 知乎后台定时任务监控平台　任务状态　主机状态

Search　搜索　登录

创建任务

正在运行的任务

等待运行的任务

[Ph] Web 产品组每周进度同步

任务列表

如有需要，可添加一段说明文字

状态说明　绿色成功　红色失败

#	任务名	上次成功	上次失败	上次持续时间	操作
2	[发现] 计算热话题	10 hours, 16 minutes	7 months, 4 weeks	744 秒	立即执行
3	[发现] 计算等待回答	52 minutes	1 month, 2 weeks	12 秒	立即执行
4	[发现] 计算每日热门答案	9 minutes	1 month, 2 weeks	20 秒	立即执行
5	[发现] 计算每月热门答案	9 hours, 11 minutes	7 months, 4 weeks	46 秒	立即执行
6	Banner: 压缩UV记录信息	3 days, 11 hours	7 months, 4 weeks	73 秒	立即执行
8	restart live	10 hours, 28 minutes	1 week, 1 day	23 秒	立即执行
11	领域数据日更新	13 hours, 51 minutes	6 months	451 秒	立即执行
12	领域数据周更新	3 days, 10 hours		2 秒	立即执行
13	清除动态编辑数据	4 months, 1 week	2 weeks, 3 days	1031 秒	立即执行

Crony

故障列表

添加

2014-12-06　14:38 - 14:42 持续4分钟　贾承昆

影响范围　所有用户　全站功能

故障影响　个人页和话题页超时严重，qps下降到1000

故障原因　counter服务异常

故障恢复　屏蔽了topic相关计数的key，除话题页以外的页面恢复正常。黄文浩对后端 nginx 并发流量做了限制

故障后续　16:56发布主站，修复了话题页大量请求counterd的问题，故障解决

2014-12-06　10:17 - 10:24 持续7分钟　贾承昆

影响范围　所有用户　全站功能

故障影响　各种页面超时500，后端qps降到400

故障原因　counter服务异常

故障恢复　重启了counterd服务

故障后续　几分钟后流量自然恢复；已经确定问题原因

2014-12-05　23:09 - 23:11 持续2分钟　贾承昆

影响范围　所有用户　全站功能

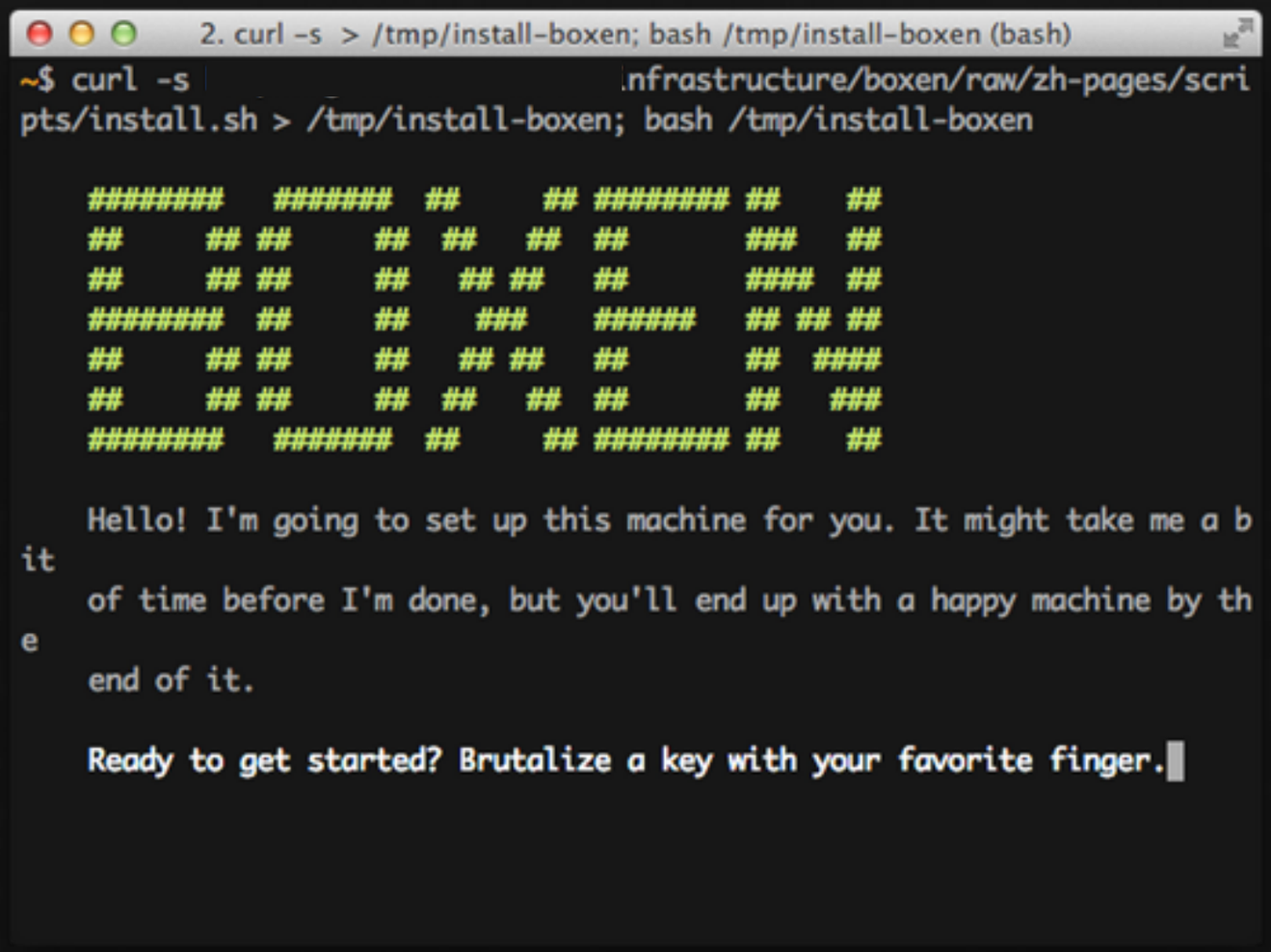
故障影响　各种页面超时500，后端qps降到100

故障原因　counter服务异常

故障恢复　屏蔽了counterd部分key的访问，API做了容错降级

./ Zhihu Boxen

知乎开发环境构建工具



Zhihu Boxen 是基于 Boxen 的开发环境构建工具，通过 Puppet 统一、方便地管理各个组件，同时利用 Vagrant 便捷地配置虚拟运行环境。安装 Zhihu Boxen 后你将拥有：

Boxen

想各种办法发挥自我创新

其实就是找各种办法刺激工程师们

Hackathon

帮助信息

导航

/	搜索
?	帮助
k	上一条目
j	下一条目
g g	第一个条目
shift + g	最后一个条目
shift + k	屏幕上移
shift + j	屏幕下移

操作

shift + o	新窗口打开条目
i g	不感兴趣
o	显示全部/收起
v	赞同
d	反对
f x	分享
s c	收藏
t	感谢
c	打开评论
shift + c	定位到评论框

确定

Tink Day

程浩，伯爵在城堡：weibo.com/now2012

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- 学习 一无所长，不学无术 4930 8
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举报用户

屏蔽用户

个人主页被 42966 人浏览

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RYA
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谢谢